PUERPERIUM

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Abstract: A postpartum period (or postnatal period) is the period beginning immediately after birth of child and extending for about six weeks. The most obvious post partum change is involution of uterus. Clear goals for post partum hospitalization have not always been well articulated. Exercise during the postpartum period should be in proportion to previous fitness and current energy level concerns about exercise diminishing milk production or infant acceptance of breast milk appear unfounded.

Key Words: Puerperium, Puerperal psychosis, Thromboembolic disease.

A postpartum period (or postnatal period) is the period beginning immediately after birth of child and extending for about six weeks. Less frequently used are the terms puerperium or puerperal period. The world health organization (WHO) describes the postnatal period as the most critical and yet the most neglected phase in the lives of mothers and babies, most deaths occurs during the postnatal period.1

Restoration of normal endometrial lining occurs by the 16th day post partum.2

A lochial pattern of bleeding may persist much longer, however with the median in a Philippine study of breast feeding women being 27 days.3 The cervix closes to about 1cm over the 1st week post partum, but may take several months to attain pre pregnant firmness and length.

Physiology of puerperium:
The most obvious post partum change is involution of uterus. Typically the uterus is at the level umbilicus after delivery of the placenta and it decreases in height by about a centimeter a day until it again becomes a pelvic organ at about 12 days post partum.

Resumption of menses:
Resumption of menstruation after delivery is highly variable. For most non breast feeding mothers the first post partum menses occur at approximately 55 to 60 day (range 20-120) post delivery.4
Breast Changes:
Changes in the breast begin well before delivery but become most dramatic post partum. For approximately 3 days postpartum, the breast secretes colostrum, distinct from milk in having higher amounts of immunoglobulin's and white blood cells and lower amounts of fat and lactose. Over 2 weeks the milk assumes its typical nutritional properties.\(^5\)

Cardiovascular changes:
Cardiovascular changes in puerperium are dramatic. Blood volume increases by about 50% at the time of delivery. There is an average 500ml blood loss at vaginal delivery and a gradual replacement of this with an auto transfusion of 500 to 750ml as the uterus contracts. This massive volume shifts, as well as hormonal vascular effects and compression decompression of the great vessels, all results in measurable and significant changes in every cardiac function parameter mean arterial pressure, cardiac output, stroke volume and systemic vascular resistance are all affected.\(^6\) Most of the hemodynamic recovery occurs in the first two weeks post partum, with more gradual shifts continuing over the next 4 or 5 months.\(^7\)

Renal changes:
Renal anatomic changes of pregnancy (particularly dilated ureters) persist for at least 5 days post partum,\(^8\) and in some patients may persist much longer.\(^9\) Renal function (plasma flow and glomerular filtration rate) are at pre-pregnant levels by 6 wks post partum.\(^10\)

Hematologic changes of puerperium:
Primary changes of puerperium include the acute loss and gradual recovery of red blood cells and iron, and a sharp leukocytosis in the first postpartum day. All though this leukocytosis may change the parameters whereby a post partum infection is diagnosed, a white blood cell count can nonetheless be useful in the assessment of febrile morbidity.\(^11\)

Management of normal puerperium:
Hospital Discharge:
Clear goals for post partum hospitalization have not always been well articulated. U.S congress, passed the newborns and mother’s health protection Act of 1996. This requires insurance carriers to cover at least 48 hrs of inpatient car after a vaginal delivery, and 72 hrs after cesarean delivery.\(^12\)

Care of breast:
Breast care in one of the patient’s primary interests postpartum for the non breast feeding patients, engorgement is an extremely uncomfortable condition. For the breast feeding woman, issues such as nipple care and maintenance of good milk flow are of concern.

Perineal care:
Perineal care used to be one of the central facets of the hospitalized postpartum course. The perineum should be inspected at least once prior to discharging the patient to home, if significant laceration or episiotomy has been sustained.

Rh. Factor:
If the parturient is Rh- negative, the infant’s Rh status should be evaluated via cord blood. If the infant is Rh positive, the standard dose of 300mg of Rh- Immunoglobulin may be administered.

Exercise:
Exercise during the postpartum period
should be in proportion to previous fitness and current energy level concerns about exercise diminishing milk production or infant acceptance of breast milk appear unfounded.13

**Follow up:**
Timing of visit varied from 2 to 6 wks postpartum, and with some recommending multiple visits during that interval.14

**Contraception:**
Contraception is not necessary in the 21 days after childbirth. Methods that are suitable choices for breast feeding women include lactational amenorrhea method, barrier methods, and intrauterine devices (including the levonorgestrel releasing intrauterine system). The progestogen only pill, injectable progesterone contraceptives, the etonorgestrel implant and sterilization. The combined oral contraceptives are not recommended as it interferes with lactation. The lactational amenorrhea is 98%.15

Depot medroxy progesterone acetate doses appear to increase milk production and carry no known deleterious effect on the infant, making it an excellent choice for contraception in the breast feeding patient.16

**Pathology Distinctive to postpartum period.**

**Mastitis:**
It occurs in about 5% of breast feeding women17 and is associated with fevers that can be quite high, erythema of a portion of a breast, induration, exquisite tenderness, and systemic findings such as chills and malaise. Treatment includes frequent expression of milk, breast feed if the patient’s pain threshold will allow it; analgesics such as aspirin or acetaminophen, local comfort measures such as well supporting bra and local heat, and a semi synthetic penicillin (erythromycin or cephalosporin’s are acceptable alternatives)

**Epidural back pain:**
In general new-onset postpartum backache related to epidural anesthesia is not severe, although it may persist for many months.18

**Thyroiditis:**
Post partum thyroiditis carries features strongly suggesting that it is an autoimmune disease.19 One third of these patients develop permanent hypothyroidism. Clinical features include painless enlargement of the thyroid gland and depression, but these findings are easily missed and misattributed. Thyroid function tests should be done. Management should be in consultation with endocrinologist.

**Connective Tissue Disease:**
Many connective tissue diseases show significant regression during pregnancy, followed by post partum flares. Several series suggested that, in women who eventually develop diseases such as rheumatoid arthritis, there is an uneven distribution of disease onset, with 12% to 20% developing initial signs and symptom during the 1st year post partum or post abortion.20

**Thromboembolic disease:**
This occurs in < 1/1000 births21 special risk factors include hypertensive disorders, multiple order gestation, smoking and operative delivery but these risk factors do not account for the majority of pregnancy related risk, at least of pulmonary embolism and stroke.22 Deep vein thrombosis is indicated by low-grade fever, raised pulse rate and a feeling of uneasiness. Calf muscles are tender and painful on firm
palpation. Clinical signs are unreliable and D. dimmer cannot be used in pregnancy and puerperium, so confirmation is needed with color Doppler ultrasound. Treatment is with low molecular weight heparin and then oral warfarin continued for 6-12 wks.23

Post partum renal failure:
Post partum renal failure is an idiopathic condition that is uncommon but devastating. It can occur anywhere from 72 hours to 10 wks following delivery. Treatment for post partum renal failure is supportive, with dialysis as the primary intervention. It is usually reversible.24

Sheehan’s Syndrome:
Post partum pituitary necrosis, commonly known as Sheehan’s syndrome, may occur following profound hemorrhage or eclampsia. The posterior pituitary is generally spared. Clinical signs include absence of lactation, amenorrhea, loss of axillary and pubic hair, genital and breast atrophy. Superinvolution of uterus, infertility, hypothyroidism (fatigue, cold intolerance, edema) and adrenocortical insufficiency (fatigue, anorexia, weight loss, decreased skin pigmentation, abnormal stress response).25

Peripartum cardiomyopathy:
Peripartum cardiomyopathy may appear in the last month of pregnancy, but it more commonly occurs within the first 5 months post partum. Treatment is aimed at controlling after load through sodium restriction and diuretics and controlling rhythms with digitalization. If thrombi are present, anti-coagulation is also required. Complete resolution occurs with in 6 month, recurrence is not unusual.26

Postnatal psychosis:
This affects 1-2/1000 women and usually appears as mania or depression but women sometimes present with apparent schizophrenia.27 It usually begins abruptly at 5-15 days, initially with confusion, anxiety, restlessness and sadness.

- There is rapid development of delusions, e.g baby has died or is deformed, or hallucinations with deepening melancholia.
- The woman must be admitted to hospital, preferably with her baby.
- There is limited evidence for the effectiveness of treatment specifically for puerperal psychosis. Treatments used for affective psychoses in general are also appropriate for puerperal psychosis, e.g one or more drugs from the antidepressant mood stabilizing or neuroleptic groups and occasionally electroconvulsive therapy (ECT).27, 28

References:


27. Management of Perinatal mood disorders; Scottish Intercollegiate Guidelines Networks (March 2012).